UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,986	12/08/2003	Thomas Nilsson	246424US8	2822

22850 7590 08/07/2006

C. IRVIN MCCLELLAND
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
ALSTRUM ACEVEDO, JAMES HENRY	
ART UNIT	**PAPER NUMBER**
1616	

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/728,986	NILSSON ET AL.	
	Examiner	Art Unit	
	James H. Alstrum-Acevedo	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *44-73* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *44-73* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *July 18, 2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 44-73 are pending. Applicants have canceled all the original claims. Receipt and consideration of Applicants' amended claims, arguments/remarks, and new IDS, submitted on May 25, 2006 and July 18, 2006 (IDS) is acknowledged.

Specification

The objection to the specification for the improper use of the trademarks **is withdrawn**, per Applicants' amendments to the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

The rejection of claims 1-43 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention I **is moot** because said claims have been cancelled. The basis for the previous rejections of the claims under 35 U.S.C. 112, second paragraph cited in the previous office action have been corrected in Applicants' newly submitted claims.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The rejection of claims 1-3, 5-14, 16-24, 26-35, and 37-43 under 35 U.S.C. 102(b) as being anticipated by Davies (US 2002/0053344) **is moot**, because said claims have been cancelled. **Claims 44, 45, 47-50, 52-60, 62-65, and 67-73 are rejected under 35 U.S.C. 102(b) as being anticipated by Davies (US 2002/0053344)** for the reasons of record, as applied to claims 1-3, 5-14, 16-24, 26-35, and 37-43 in the previous office action and further explained below.

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 44-46, 50, 53, and 56 are rejected under 35 U.S.C. 102(e) as being anticipated by Goede et al. (US 2003/0136405) (IDS Ref.).

Applicant claims a medical product comprising a dry powder dose comprising at least one of tiotropium and physiologically acceptable salts thereof directly loaded into a container, wherein the container is constituted by a dry, moisture-tight seal, which prevents the ingress of moisture into the powder dose and thus preserves the original fine particle fraction of the powder for at least seven days.

Goede discloses a **pharmaceutical powder cartridge and inhaler equipped with the same** comprising at least one metering slide **being sealed off from the environment** at least in the filling position of the metering slide (title and abstract). Goede's medical product is characterized in having a housing body and/or lid comprising a blend of desiccant embedded in a thermoplastic matrix to limit the effects of moisture ([0038] & claim 22). The presence of **desiccant** in the cartridge housing body and/or lid

would imbue this medical product with the property of not emitting water. It is art recognized that desiccants entrap ambient moisture. Goede discloses that the advantages of his invention can be used in long-term storage of a pharmaceutical powder cartridge for use in inhalers ([0034] and claims 17-22). The advantages of Goede's invention are especially beneficial for patients requiring treatment with a pharmaceutical cartridge containing a powder comprising **anticholinergics**, such as **thiotropium bromide (i.e. tiotropium bromide)** ([0044] & [0046]). Because Goede's cartridge is manufactured under low ambient moisture conditions, is made of a **plastic substantially impermeable to water vapor** (claim 21), has a **water-tight seal**, and is constructed with desiccant embedded in the housing body and/or lid, it would inherently have the property of preserving a composition's original fine particle fraction for at least seven days.

Claim Rejections - 35 USC § 103

The rejection of claims 4, 15, 25, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davies et al. (US 2002/0053344) in view of Zierenberg, B. (WO 03/084502) **is moot**, because said claims have been cancelled. **Claims 51 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davies et al. (US 2002/0053344) in view of Zierenberg, B. (WO 03/084502)** for the reasons of record applied to claims 4, 15, 25, and 36 in the previous office action.

Claims 51, 58-61, 65, 66, 71, and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goede et al. (US 2003/0136405) (IDS Ref) in view of Keller (U.S. Patent No. 2004/0202616) (Keller).

Applicant Claims

Applicant claims (1) a medical product comprising a dry powder dose comprising at least one of tiotropium and physiologically acceptable salts thereof directly loaded into a container, wherein the container is constituted by a dry, moisture-tight seal, which prevents the ingress of moisture into the powder dose and thus preserves the original fine particle fraction of the powder for at least seven days; (2) the product of (1) which does not emit water; (3) the product of (1) further comprising at least one additional active pharmaceutical ingredient selected from inhalable steroids, nicotinamide derivatives, beta-mimetics, anti-histamines, adenosine A2A receptors, PDE4 inhibitors, and dopamine D2 receptor agonists.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

The teachings/disclosures of Goede have been set forth above in the instant office action. Keller teaches an exemplified composition comprising **tiotropium, lactose**, and magnesium stearate in Example 6. Keller teaches that the use of magnesium stearate is desirable in dry powder formulations, which contain a **beta-mimetic and/or an anticholinergic, and /or a corticosteroid** and wherein moisture sensitivity is a problem ([0024], [0028], [0029]. Tiotropium is an anticholinergic. Keller teaches in claim 58 a dry powder formulation comprising (a) a pharmaceutically inactive carrier, (b) **at least two finely divided active agents** having particles of inhalable particle size, and (c) magnesium stearate adhering to said particles of said inactive carrier, wherein the active agent is selected from the group consisting of formoterol fumarate, salmeterol xinafoate, levalbuterol sulfate, and at least one active compound is a corticosteroid. Carriers are

kind of excipient. Examples of beta mimetics include formoterol fumarate and salmeterol xinafoate. Suitable anticholinergics include **oxitropium bromide, ipratropium bromide, glycopyrrolate, and tiotropium bromide**. Corticosteroids for use in the composition include beclomethasone dipropionate and fluticasone propionate. The active compound(s), carrier, and magnesium stearate typically represent 0.1-10% w/w [0031], 80-99.9% w/w [0035], and 0.001-10% w/w of the composition [0037]. Keller's invention is based on lowering the sensitivity of powder mixtures to moisture [0017].

Ascertainment of the Difference Between Scope the Prior Art and the Claims

(MPEP §2141.012)

Goede lacks the teaching of a medical product containing therein a pharmaceutical dose comprising a combination of active agents as well as compositions comprising lactose in admixture with one active agent. These deficiencies are cured by the teachings of Keller.

Finding of Prima Facie Obviousness Rational and Motivation

(MPEP §2142-2143)

It would have been obvious to a person of ordinary skill in the art at the time of the instant application to combine the teachings of Goede and Keller, because both inventors teach powder compositions for inhalation wherein the active agent is tiotropium. A person of ordinary skill in the art would have been motivated to combine the teachings of Goede and Keller, because the inclusion of magnesium stearate (Keller)

in compositions is advantageous, especially in formulations where moisture sensitivity of the active agent and/or composition is a problem. A skilled artisan would have had a reasonable expectation of success upon combination of the teachings of Keller and Goede, because both references utilize dry powder formulations designed for inhalation administration and comprising tiotropium. Regarding medical products adapted for the treatment of respiratory diseases, it is art recognized the inhalers (Goede) are utilized to deliver pharmaceutical compositions via inhalation for the treatment of respiratory diseases (e.g. asthma), as evidenced by the active agents contained in said compositions, such as inhalable anti-inflammatory corticosteroids and bronchodilators, such as anticholinergics and beta-mimetics. Therefore, this intended use of said medical products is obvious.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

The provisional rejections of the claims of the instant application rejected on the ground of nonstatutory obviousness-type double patenting as described on pages 10-18 of the previous office action **are moot**, because Applicant has cancelled said claims. The rejections of the new claims with the copending applications discussed in the previous office action follow and are based upon the reasons set forth in the record.

Claims 44, 46, 49-55, 59-61, 64-70, and 73 of the instant application are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 21-24, 28, 31-33, and 35-38 of copending Application No. 10/603,819 (copending '819) for the reasons of record. It is noted that the original claims of copending '819 have been cancelled and that the new claims of copending '819 cited in this rejection have the same or substantially similar scope as the previously cited claims. It is also noted that the dry, moisture-tight barrier seal described in claims 67-69 of the instant application reads on a blister pack (i.e. a common dose bed).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 40, 50-51, 59, and 65-66 of the instant application are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being

unpatentable over claims 42-47, 49, and 53 of copending Application No. 10/703,505 (copending '505) in view of Akehurst (U.S. Patent No. 6,303,103) (USPN '103) for the reasons of record set forth in the previous office action. It is noted that the original claims of copending '505 have been cancelled and that the new claims of copending '505 cited in this rejection have the same or substantially similar scope as the previously cited claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 44, 49, 50-51, and 53 of the instant application are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 7-12 of copending Application No. 10/729,024 (copending '024) for the reasons of record set forth in the previous office action. It is noted that a dose bed reads on a "cavity molded from a polymer..." as claimed in claim 53 of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 44-73 (all claims) are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6, 8-16, 18, 22-23, 26, 28-42, 45, and 48 of copending Application No. 10/834,037 (copending '037) in view of Davies (US 2002/0053344; IDS) for the reasons of record set forth in the previous office action.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 44-45, 47-51, 53-60, 62-66, 68-73 of the instant application are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-24 of copending Application No. 10/870,907 (copending '907) in view of Akehurst (U.S. Patent No. 6,303,103) (USPN '103) for the reasons of record set forth in the previous office action.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 44, 49, 53-54, 58-59, 68-69, and 73 of the instant application are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 32-33, 37-38, and 40-41 of copending Application No. 10/870,909 (copending '909) in view of Akehurst (U.S. Patent No. 6,303,103) (USPN '103) for the reasons of record set forth in the previous office action.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 44-45, 47-51, 53-60, 62-66, 68-73 of the instant application are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over all the claims of copending Application No.

10/870,945 (copending '945) in view of Akehurst (U.S. Patent No. 6,303,103) (USPN '103) for the reasons of record set forth in the previous office action.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 44-73 (all claims) are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 36-61 (all claims) of copending Application No. 10/921,192 (copending '192) for the reasons of record set forth in the previous office action.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 44 and 49-57 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 and 18 of copending Application No. 10/933,219 (copending '219) in view of Zierenberg (WO 03/084502) for the reasons of record set forth in the previous office action.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

Applicant's arguments filed May 25, 2006 have been fully considered but they are not persuasive. Applicants traverse the art rejections of record as these may apply to the new claims based on the assertion that (1) Davies' teachings of a seal are plagued by the

problems of all peelable seals in being inadequate in preventing the ingress of moisture; (2) Davies' allegedly does not appreciate the problems of moisture protection; (3) the combination of Davies and Zierenberg does not overcome the alleged deficiencies in Davies; and (4) the capsules described by Zierenberg are the same as those used in Applicants' comparative tests with SPIRIVA® capsules as described on page 6 of the instant specification and tabulated on page 9. The Examiner respectfully disagrees. Davies clearly teaches the use of a hermetic seal, which are art recognized as preventing the ingress and egress of air. Air contains moisture; therefore, Davies' invention inherently prevents the ingress of moisture into the compositions contained within Davies' device. Applicant has provided no evidence that Davies' device is not hermetically sealed and has merely argued that this is not so. Argument in the absence of evidence is unconvincing. Regarding Applicants' assertion that the capsules mentioned in Zierenberg are the same as the SPIRIVA® capsules as described on page 6 of the instant specification and tabulated on page 9, the Examiner respectfully disagrees. The only commonality between what Applicant alleges and the capsules mentioned in Zierenberg is that both are capsules. This would be equivalent to the comparison of one kind of a 2-door car with a different kind of 2-door car and stating these were the same merely because they were both cars. Finally, regarding the limitations concerning the properties of tiotropium dosages when delivered from the claimed medical product after a specified period of time, it is the Examiner's position that these are inherent to the device/composition disclosed by Davies, because this property is a consequence of Davies' device's ability to prevent the ingress of moisture and ruin the composition contained therein.

Conclusion

Claims 44-73 are rejected. No claims are allowed.

Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on July 18, 2006 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James H. Alstrum-Acevedo whose telephone number is (571) 272-5548. The examiner can normally be reached on M-F, 9:00-6:30, with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571) 272-0664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James H. Alstrum-Acevedo, Ph.D.
Patent Examiner
Technology Center 1600

Johann Richter, Ph. D., Esq.
Supervisory Patent Examiner
Technology Center 1600